

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554**

In the Matter of)	
)	
PCS Partners, L.P.)	WT Docket No. 16-149
)	
Petition For Waiver of 47 C.F.R. § 90.353(b))	File No. _____
and Request for Extension of Time and)	
for Expedited Treatment)	

**AMENDMENT TO PETITION FOR WAIVER OF 47 C.F.R. § 90.353(b),
AND REQUEST FOR EXTENSION OF TIME AND
FOR EXPEDITED TREATMENT**

PCS Partners, L.P. (“PCSP”), by its attorneys, hereby amends its Petition for Waiver of 47 C.F.R. § 90.353(b) and Request for Extension of Time and for Expedited Treatment (“Petition”), filed April 15, 2016 in the above-captioned matter. The Petition requests waiver of Section 90.353(b) of the Commission’s rules to provide PCSP flexibility with respect to transmissions utilizing its licensed Multilateration Location and Monitoring Service (“M-LMS”) spectrum, and, pursuant to Section 90.155(g), an extension of PCSP’s current construction milestone deadlines to afford additional time for the development and testing of network equipment and devices necessary for PCSP to deploy viable technology.

PCSP holds licenses to provide M-LMS in the M-LMS A Block (904.0-909.750 MHz/927.750-928.0 MHz) and C Block (921.750-927.250 MHz/927.250-927.500 MHz). The licensed M-LMS bands (which also include the B Block (919.750-921.750 MHz/927.500-927.750 MHz) (the A, B, and C Blocks collectively, the “M-LMS Bands”) have a long history of underutilization. PCSP has made substantial efforts to identify a viable technology solution in its M-LMS spectrum, taking into consideration both the obligation to provide location functionality

and the realities of current and anticipated markets for equipment and services. As described in detail in the Petition, PCSP has identified a clear path forward for near-term utilization of its spectrum. In particular, PCSP sought relaxation of Section 90.353(b), which permits the transmission of voice or non-voice “status and instructional messages” only if such messages are related to the location or monitoring functions of the system,¹ in order to permit short, infrequent packet transmissions in the M-LMS A Block sub-band (904.0-909.75 MHz) at scheduled times utilizing equipment that incorporates the latest version of the 3rd Generation Partnership Project (“3GPP”) Long Term Evolution (“LTE”) standard. If the requested waiver is granted, PCSP proposes to deploy an LTE system capable of supporting both a trilateration-based M-LMS and machine type communication (“MTC”) for narrowband Internet of Things (“IoT”) applications and services. PCSP also requested extensions of time to satisfy the first and second construction deadlines applicable to its A Block licenses.² By this amendment, PCSP adds its M-LMS license for the Minneapolis-St. Paul Basic Economic Area (BEA107), call sign WPYE291, to the pending Petition, and thus seeks authority to utilize the same equipment and technology, for the same types of transmissions, and on the same implantation schedule, in the M-LMS C Block sub-band (921.750-927.250 MHz), as set forth in the Petition.³

Rule waiver is appropriate if “(i) special circumstances warrant a deviation from the general rule, and (ii) such deviation will serve the public interest.”⁴ Section 1.925(b) of the rules further provides that “the Commission may grant a request for waiver if it is shown that: (i) The

¹ 47 C.F.R. § 90.353(b).

² See Petition at 12-13.

³ An amended Attachment 1 is included herewith.

⁴ *In the Matter of DISH Network Corporation Petition for Waiver*, Memorandum Opinion and Order, 28 FCC Rcd 16787, ¶ 11 (WTB 2013) (“*DISH Waiver Order*”).

underlying purpose of the rule(s) would not be served or would be frustrated by application to the instant case, and that a grant of the requested waiver would be in the public interest; or (ii) in view of the unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome or contrary to the public interest, or the applicant has no reasonable alternative.”⁵ As with the PCSP A Block licenses, waiver of Section 90.353(b) and extension of the current construction deadlines for PCSP’s C Block license satisfies this standard.⁶ A waiver will result in innovative and efficient use of the PCSP spectrum, which, as with the M-LMS Bands generally, currently is not being used to provide any service authorized under the M-LMS rules. PCSP’s proposed use will bring users a widely accepted, standardized and efficient solution in an M-LMS offering, as well as narrowband IoT services. Furthermore, by incorporating the latest releases of the 3GPP LTE standard with newly introduced user equipment (“UE”) categories that provide for intermittent (low duty cycle) traffic, low data rates, and delay-tolerant transmissions intended to reduce complexity and power consumption, M-LMS can be provided in a more spectrally efficient manner than the network configuration mandated by current rules.⁷ As the Commission has found, granting a waiver that provides “the flexibility to make fundamental choices about service offerings, taking into account market factors such as consumer demand, availability of technology, and competition ... tends to result in efficient and highly-valued uses of spectrum.”⁸ In addition, waiver will allow a wide variety of additional applications and services to be offered to consumers utilizing the PCSP spectrum.⁹

⁵ 47 C.F.R. § 1.925(b)(3).

⁶ See Petition at 3-11, (WT Docket No. 16-149, incorporated herein by reference).

⁷ See Petition at 5 & n.9.

⁸ *DISH Waiver Order*, ¶ 19. As explained in the Petition, new LTE devices will produce location information in a variety of difficult-to-serve deep indoor environments, providing users with
(continued...)

Waiver also will result in a second approved provider in the M-LMS Bands, including in the C Block, and provide a competitive alternative to the location service authorized to be offered by Progeny LMS, LLC (“Progeny”). Given the development and availability of globally standardized LTE equipment supported by a large ecosystem of vendors and suppliers, the timetable for implementation of PCSP’s proposed solution, as set forth in the Petition,¹⁰ could enable the availability of a new location technology in the M-LMS Bands concurrent with other M-LMS Bands technology solutions.

Significantly, PCSP’s proposed operations utilizing its C Block spectrum is no more likely to cause interference to other band users than the proposed operations in its A Block spectrum. PCSP can implement its proposed solution in compliance with existing M-LMS technical rules, including power limits and interference protections.¹¹ PCSP’s preliminary analysis indicates that its proposed effective bandwidth use in both its A Block and C Block spectrum will be comparable to the bandwidth use previously approved for Progeny. Significantly less bandwidth is needed to perform location functions alone than the approximately 4 MHz utilized by Progeny’s approved solution, while the amount of bandwidth utilized by IoT applications can be controlled by limiting the number of devices per cell to a

(...continued)

service both indoors and outdoors that is likely more reliable than most existing location services. As the Commission has found, “the public interest benefits from improved position location service in areas where GPS is limited, such as in urban canyons and indoors, are substantial.” *Request by Progeny LMS, LLC for Waiver of Certain M-LMS Rules*, WT Docket No. 11-49, Order, 26 FCC Rcd 16878, ¶ 20 (WTB & OET 2011), *recon. pending*.

⁹ Petition at 7.

¹⁰ *Id.* at 12-13.

¹¹ *See* 47 C.F.R. §§ 90.353(a), (c), (d).

level that precludes unacceptable interference to other users of PCSP's spectrum.¹² No user outside the PCSP A Block or C Block spectrum will be materially impacted by transmissions resulting from PCSP's proposed solution. And, PCSP will remain subject to the existing condition that it demonstrate through field tests that its system does not cause "unacceptable levels of interference" to Part 15 devices that operate on a secondary basis in PCSP's spectrum,¹³ as well as the obligation to not cause interference to, and to tolerate interference from, federal government radiolocation stations and ISM devices operating in the 902-928 MHz band.¹⁴ These rules, in combination with power limits and other fundamental technical requirements, are the most effective regulations for limiting potential interference, and best achieve the purpose of Section 90.353(b), which is intended to limit the potential for interference to other users of the band.¹⁵

The Commission has found that the public interest would be served by grant of a waiver that has the potential to enhance competition, innovation, and rapid deployment, and to increase

¹² See Petition at n.22. See also In the Matter of PCS Partners, L.P., Petition for Waiver, WT Docket No. 16-149, Reply Comments of PCS Partners, L.P. (June 3, 2016) ("Reply Comments"). The responses in the Reply Comments, including in the Declaration of Nat Natarajan, Ph.D., to technical questions about PCSP's proposed solution, apply equally to PCSP's C Block spectrum, and are incorporated herein by reference. In Comments on the Petition, Starkey Hearing Technologies ("Starkey") expressed concern (at page 2) about the potential impact from PCSP's proposed operations on Starkey's two discovery channels in the M-LMS B and C Blocks. However, Starkey (like other vendors) based its general concerns on an *a priori* assumption that any use of M-LMS spectrum by PCSP will cause harmful interference. PCSP has acknowledged its obligation under the rules to demonstrate through field tests that its system does not cause unacceptable levels of interference to Part 15 devices – an obligation that applies equally to both its A Block and C Block spectrum.

¹³ 47 C.F.R. § 90.353(d).

¹⁴ 47 C.F.R. § 90.353(a).

¹⁵ *Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems*, PR Docket No. 93-61, Report and Order, 10 FCC Rcd 4695, ¶¶ 2, 23 (1995).

the supply of in-demand spectrum and services.¹⁶ As described above and in the Petition, the requested waiver of Section 90.353(b) for all of PCSP's M-LMS spectrum will fulfill each of these objectives, while helping to assure that spectrum is available for the standards and systems now becoming available that make possible the provision of both M-LMS and other services.¹⁷

Application of Section 90.353(b) also would be unduly burdensome and contrary to the public interest. PCSP's proposed path forward takes into account today's mature market for position location technology, which offers a multitude of alternative technologies. Because there is no market or technological rationale for implementing a stand-alone location position service in the M-LMS A Block or C Block spectrum, it would be unduly burdensome for PCSP to provide such a service, or to further delay implementation of its proposal awaiting a change in market conditions or technology solutions.¹⁸

Finally, for all of the reasons set forth in the Petition,¹⁹ the extension of time requested in the Petition and the timetable set forth therein²⁰ should apply equally to PCSP's C Block license.

¹⁶ *DISH Waiver Order*, ¶ 23.

¹⁷ See Sean Kinney, *FCC Chairman Talks 5G, Spectrum in House Session*, RCR WIRELESS (Mar. 22, 2016), available at <http://www.rcrwireless.com/20160322/policy/fcc-chairman-talks-5g-spectrum-tag17?omhide=true> (noting that Chairman Wheeler has reiterated that flexible use policies are needed to “assur[e] that spectrum is available to be deployed when the private sector has arrived at the requisite technical standards and network architectures.”).

¹⁸ See Petition at 10-11 (incorporated herein by reference).

¹⁹ Petition at 13-14 (incorporated herein by reference).

²⁰ *Id.* at 12-13. PCSP has a pending request for an extension of time to satisfy its construction obligations for the license that is the subject of this Amendment. See PCSP Petition for Partial Reconsideration and Clarification, WT Docket No. 12-202 (filed Sept. 29, 2014) (“2014 Petition”). To the extent the Bureau acts on the instant request prior to addressing the 2014 Petition, the extension period approved in this proceeding would supersede the period requested in the 2014 Petition.

For the foregoing reasons, PCSP respectfully requests that the Bureau expeditiously grant the requested flexibility in order to permit PCSP to deploy LTE-based location and other services, and also grant an extension of PCSP's buildout deadlines for the authorizations listed on Attachment 1 hereto. A prompt grant of this request will serve the public interest and is consistent with Commission precedent.

Respectfully submitted,

PCS PARTNERS, L.P.

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Its Attorneys

August 19, 2016

ATTACHMENT 1 (Amended)

CALL SIGN	MARKET NUMBER	MARKET NAME
WPYE267	BEA005	Albany-Schenectady-Troy, NY
WPYE268	BEA006	Syracuse, NY-PA
WPYE269	BEA007	Rochester, NY-PA
WPYE270	BEA020	Norfolk-Va. Beach-Newport News, VA-NC
WPYE271	BEA022	Fayetteville, NC
WPYE272	BEA025	Wilmington, NC-SC
WPYE273	BEA026	Charleston-North Charleston, SC
WPYE274	BEA042	Asheville, NC
WPYE275	BEA046	Hickory-Morganton, NC-TN
WPYE276	BEA049	Cincinnati-Hamilton, OH-KY-IN
WPYE277	BEA050	Dayton-Springfield, OH
WPYE278	BEA051	Columbus, OH
WPYE279	BEA059	Green Bay, WI-MI
WPYE280	BEA060	Appleton-Oshkosh-Neenah, WI
WPYE281	BEA067	Indianapolis, IN-IL
WPYE282	BEA070	Louisville, KY-IN
WPYE283	BEA074	Huntsville, AL-TN
WPYE284	BEA087	Beaumont-Port Arthur, TX
WPYE285	BEA096	St. Louis, MO-IL
WPYE286	BEA097	Springfield, IL-MO
WPYE287	BEA099	Kansas City, MO-KS
WPYE288	BEA104	Madison, WI-IA-IL
WPYE289	BEA105	La Crosse, WI-MN
WPYE290	BEA106	Rochester, MN-IA-WI
WPYE291	BEA107	Minneapolis-St. Paul, MN
WPYE292	BEA108	Wausau, WI
WPYE293	BEA109	Duluth-Superior, MN-WI
WPYE294	BEA125	Oklahoma City, OK
WPYE295	BEA132	Corpus Christi, TX
WPYE296	BEA133	McAllen-Edinburg-Mission, TX
WPYE297	BEA135	Odessa-Midland, TX
WPYE298	BEA157	El Paso, TX-NM